

REMARKS

Applicants have amended their claims herein to better clarify the invention. Claims 1, 10, and 19, are amended herein to recite, *inter alia*, supplying a plurality of host computers, wherein a different one of the plurality of control nodes is disposed in each of the plurality of host computers. Support can be found in the Specification on Page 1 at Lines 7-9 and in original claim 7. Claims 1, 10, and 19, are further amended herein to recite, *inter alia*, supplying a plurality of data storage and retrieval systems. Support can be in the Specification on Page 1 at Lines 7-9, Page 5 at Lines 4-8, and in FIG. 4 which shows data storage and retrieval systems 410, 430, and 450.

Claims 1, 10, and 19, are further amended herein to recite, *inter alia*, supplying a communication link interconnecting each of the plurality of host computers and each of said data storage and retrieval systems. Support can be found in the Specification on Page 5 at Lines 14-16, and in FIG. 4 show shows communication link 401 interconnecting host computers 480, 485, and 490, with data storage and retrieval systems 410, 430, and 450. Claims 1, 10, and 19, are further amended herein to recite, *inter alia*, designating a captain control node to coordinate the operations of the plurality of host computers. Support can be found in the Specification on Page 2 at Lines 1-2.

No new matter has been entered. Reexamination and reconsideration of the application, as amended, is respectfully requested.

Claims 1-24 stand objected to for various informalities. Claims 1-24 have been amended herein to cure those informalities.

Claims 1-24 stand rejected under 35 USC 101 as being directed to non-statutory matter.

Independent claims 1, 10, and 19, as amended herein, are directed to supplying a plurality of host computers, wherein a different one of a plurality of control nodes is disposed in each of the plurality of host computers, supplying a plurality of data storage and retrieval systems, supplying a communication link interconnecting each of the plurality of host computers and each of said data storage and retrieval systems, and designating one control node as the captain control node to coordinate the operations of the plurality of host computers. Applicants respectfully submit that claims 1, 10, and 19, as amended herein, are directed to statutory matter.

As recently as 2005, the Federal Circuit held that “section 101 extends to any process that applies an equation to a new and useful end.” *NTP, INC., v. Research In Motion, LTD.*, 418 F.3d 1282, 1324, 75 U.S.P.Q.2D 1763, (Fed.Cir. 2005). In *State Street Bank*, the Federal Circuit held that “unpatentable mathematical algorithms are identifiable by showing they are merely abstract ideas constituting disembodied concepts or truths that are not ‘useful.’ . . . To be patentable an algorithm must be applied in a ‘useful’ way.” *Id.* at 1373, 47 U.S.P.Q.2D (BNA) at 1601. In that case, the claimed data processing system for implementing a financial management structure satisfied the § 101 inquiry because it constituted a “practical application of a mathematical algorithm, . . . [by] producing ‘a useful, concrete and tangible result.’” *Id.* at 1373, 47 U.S.P.Q.2D (BNA) at 1601.

That a mathematical algorithm may be an integral part of patentable subject matter such as a machine or process if the claimed invention as a whole is applied in a “useful” manner, follows the approach taken by the Federal Circuit en banc in *In re Alappat*, 33 F.3d 1526, 31 U.S.P.Q.2D (BNA) 1545 (Fed. Cir. 1994). In *Alappat*, the Federal Circuit held:

[The Court] never intended to create an overly broad, fourth category of [mathematical] subject matter excluded from § 101. Rather, at the core of the Court's analysis . . . lies an attempt by the Court to explain a rather straightforward concept, namely, that certain types of mathematical subject matter, standing alone, represent nothing more than abstract ideas until reduced to some type of practical application, and thus that subject matter is not, in and of itself, entitled to patent protection.

Id. at 1543, 31 U.S.P.Q.2D (BNA) at 1556-57 (emphasis added). Thus, the *Alappat* inquiry simply requires an examination of the claims to see if the claimed subject matter as a whole is a disembodied mathematical concept representing nothing more than a “law of nature” or an “abstract idea,” or if the mathematical concept has been reduced to some practical application rendering it “useful.” *Id.* at 1544, 31 U.S.P.Q.2D (BNA) at 1557.

So also in the case. Claims 1, 10, and 19, are clearly NOT abstract ideas. Rather, claims 1, 10, and 19, are directed to a useful, concrete, and tangible result, namely selecting a captain control node to coordinate the operations of a plurality of interconnected host computers.

Claims 1, 10, and 19, stand rejected on the grounds of nonstatutory obviousness-type double patenting as being obvious over claims 1 and 11 of Dan et al. (U.S. Pat. No. 6,047, 309). Dan et al. fails to teach supplying a plurality of host computers, wherein a different one of a plurality of control nodes is disposed in each of the plurality of host computers, supplying a plurality of data storage and retrieval systems, supplying a communication link interconnecting each of the plurality of host computers and each of said data storage and retrieval systems, and designating one control node as the captain control node to coordinate the operations of the plurality of host computers, as recited in Applicants' claims 1, 10, and 19, as amended herein. This being the case, Applicants respectfully submit that claims 1, 10, and 19, as amended herein, are patentable over the teachings of Dan et al.

Claims 1, 10, and 19, stand rejected on the grounds of nonstatutory obviousness-type double patenting as being obvious over claims 1 and 2 of Emens et al. (U.S. Pat. No. 6,606,643). Emens et al. fails to teach supplying a plurality of host computers, wherein a different one of a plurality of control nodes is disposed in each of the plurality of host computers, supplying a plurality of data storage and retrieval systems, supplying a communication link interconnecting each of the plurality of host computers and each of said data storage and retrieval systems, and designating one control node as the captain control node to coordinate the operations of the plurality of host computers, as recited in Applicants' claims 1, 10, and 19, as amended herein. This being the case, Applicants respectfully submit that claims 1, 10, and 19, as amended herein, are patentable over the teachings of Emens et al.

Claims 1, 5, 7-10, 14, 16-19, and 23, stand rejected under 35 USC 102(b) as being anticipated by Kenner et al. (U.S. Pat. No. 6,112,239). "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of Cal.*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed.Cir. 1987); MPEP 2131. Moreover, "[t]he identical invention must be shown in as complete detail as is contained in the . . . claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed.Cir. 1989).

Kenner et al. fails to teach supplying a plurality of host computers, wherein a different one of a plurality of control nodes is disposed in each of the plurality of host computers, supplying a plurality of data storage and retrieval systems, supplying a communication link interconnecting each of the plurality of host computers and each of said data storage and retrieval systems, and designating one control node as the captain control node to coordinate

the operations of the plurality of host computers, as recited in Applicants' claims 1, 10, and 19, as amended herein. This being the case, Applicants respectfully submit that claims 1, 10, and 19, as amended herein, are patentable over the teachings of Kenner et al.

Claims 5, and 7-9, as amended herein, depend, directly or indirectly, from claim 1, as amended herein. Under 35 U.S.C. § 112, fourth paragraph, "a claim in dependent form shall be construed to incorporate by reference all the limitations of the claim to which it refers." Applicants respectfully submit that claims 5, and 7-9, as amended herein, are patentable over the teachings of Kenner et al.

Claims 14, and 16-18, as amended herein, depend, directly or indirectly, from claim 10, as amended herein. Under 35 U.S.C. § 112, fourth paragraph, "a claim in dependent form shall be construed to incorporate by reference all the limitations of the claim to which it refers." Applicants respectfully submit that claims 14, and 16-18, as amended herein, are patentable over the teachings of Kenner et al.

Claim 23, as amended herein, depends from claim 19, as amended herein. Under 35 U.S.C. § 112, fourth paragraph, "a claim in dependent form shall be construed to incorporate by reference all the limitations of the claim to which it refers." Applicants respectfully submit that claim 23, as amended herein, is patentable over the teachings of Kenner et al.

Claims 3, and 12, stand rejected under 35 USC 103(a) as being unpatentable over Kenner et al. (U.S. Pub. No. 2003/0004177) in view of Conrad et al (U.S. Pub. No. 2002/0156878). "To establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art." MPEP 2143.03; *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974).

Neither Kenner et al. nor Conrad et al., singly or in combination, teach or suggest supplying a plurality of host computers, wherein a different one of a plurality of control nodes is disposed in each of the plurality of host computers, supplying a plurality of data storage and retrieval systems, supplying a communication link interconnecting each of the plurality of host computers and each of said data storage and retrieval systems, and designating one control node as the captain control node to coordinate the operations of the plurality of host computers, as recited in Applicants' claims 3 and 12, as amended herein. This being the case, Applicants respectfully submit that claims 3 and 12, as amended herein, are patentable over the teachings of Kenner et al. in view of Conrad et al.

Claims 2, 11, and 20, stand rejected under 35 USC 103(a) as being unpatentable over Kenner et al. (U.S. Pub. No. 2003/0004177) in view of Rehkopf et al (U.S. Pat. No. 6,505,249). "To establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art." MPEP 2143.03; *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974).

Neither Kenner et al. nor Rehkopf et al., singly or in combination, teach or suggest supplying a plurality of host computers, wherein a different one of a plurality of control nodes is disposed in each of the plurality of host computers, supplying a plurality of data storage and retrieval systems, supplying a communication link interconnecting each of the plurality of host computers and each of said data storage and retrieval systems, and designating one control node as the captain control node to coordinate the operations of the plurality of host computers, as recited in Applicants' claims 2, 11, and 20, as amended herein. This being the case, Applicants respectfully submit that claims 2, 11, and 20, as amended herein, are patentable over

the teachings of Kenner et al. in view of Rehkopf et al.

Claims 4, 13, and 22, stand rejected under 35 USC 103(a) as being unpatentable over Kenner et al. in view of Conrad et al. and Rehkopf et al. "To establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art." MPEP 2143.03; *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974).

Neither Kenner et al., nor Conrad et al., nor Rehkopf et al., singly or in combination, teach or suggest supplying a plurality of host computers, wherein a different one of a plurality of control nodes is disposed in each of the plurality of host computers, supplying a plurality of data storage and retrieval systems, supplying a communication link interconnecting each of the plurality of host computers and each of said data storage and retrieval systems, and designating one control node as the captain control node to coordinate the operations of the plurality of host computers, as recited in Applicants' claims 4, 13, and 22, as amended herein. This being the case, Applicants respectfully submit that claims 4, 13, and 22, as amended herein, are patentable over the teachings of Kenner et al. in view of Conrad et al. and Rehkopf et al.

Claims 6, 15, and 24, stand rejected under 35 USC 103(a) as being unpatentable over Kenner et al. "To establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art." MPEP 2143.03; *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974).

Kenner et al. nowhere teach or suggest supplying a plurality of host computers, wherein a different one of a plurality of control nodes is disposed in each of the plurality of host computers, supplying a plurality of data storage and retrieval systems, supplying a communication link interconnecting each of the plurality of host computers and each of said

data storage and retrieval systems, and designating one control node as the captain control node to coordinate the operations of the plurality of host computers, as recited in Applicants' claims 6, 15, and 24, as amended herein. This being the case, Applicants respectfully submit that claims 6, 15, and 24, as amended herein, are patentable over the teachings of Kenner et al.

Having dealt with all of the outstanding objections and/or rejections of the claims, Applicants submit that the application as amended is in condition for allowance, and an allowance at an early date is respectfully solicited. In the event there are any fee deficiencies or additional fees are payable, please charge them, or credit an overpayment, to our Deposit Account No. 502262.

Respectfully submitted,

/Dale F. Regelman/

Dale F. Regelman, Ph.D.
Attorney for Applicants
Reg. No. 45,625

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